Submission to Inquiry into data centres in New South Wales

March 2026

Net Zero Commission

26 March 2026

Ms Abigail Boyd, MLC
Committee Chair
Public Accountability and Works Committee
Inquiry into data centres

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Dear Ms Boyd,

Inquiry into data centres

Thank you for your invitation to the Net Zero Commission (the Commission) to make a submission to the Public Accountability and Works Committee Inquiry into data centres. I am pleased to attach the Commission's submission for the Committee's consideration.

The Commission was established under the *Climate Change (Net Zero Future) Act 2023* as an independent body providing expert advice on NSW's climate goals, including legislated emissions reduction targets and climate resilience objectives. These functions include advising on emerging risks and opportunities that may affect the State's ability to meet its targets.

Data centres represent a significant economic opportunity for NSW. However, the forecast increased electricity demand from data centres means good policy design is vital to ensure development contributes to NSW's emissions reduction targets and supports the State's electricity sector transition.

Our submission proposes four principles to guide data centre development in NSW:

1. Data centres should fund new renewable energy generation commensurate with their demand, ensuring genuine additionality.
2. Data centres should actively contribute to grid reliability by limiting energy consumption during peak periods and offering demand response capacity during system stress events.
3. Data centres should meet world-leading standards for energy and water efficiency, with ongoing public reporting to ensure compliance.
4. The most suitable location for data centres should be determined, with regional locations actively considered where workloads are not genuinely latency-sensitive.

We look forward to opportunities to engage with the Committee on this important topic.

Yours sincerely,

Nicholas Rowley

Chair, Net Zero Commission

Data Centres

March 2026

The Net Zero Commission is established under the Climate Change (Net Zero Future) Act 2023 to review progress towards, and advise on the NSW Government's actions to achieve, the state's emissions reduction targets and adaptation objective. In response to the Public Accountability and Works Committee inquiry into data centres, the Net Zero Commission provides this submission to support the inquiry's deliberations and broader public understanding of these issues.

Data centres represent a significant economic opportunity for NSW, and government policy is needed to help ensure that this growth helps achieve emissions reduction targets, supports the electricity transition and minimises other environmental impacts.

Data centres are vital to modern digital economies. They provide the physical infrastructure underpinning cloud computing, artificial intelligence, financial services, healthcare, and productivity gains across virtually every sector. The scale of investor interest is substantial and NSW is well positioned to capture the benefits of this growth. The Net Zero Commission believes that data centres can and must be developed in a way that contributes to NSW's emissions reduction targets and supports the state's electricity sector transition.

The Australian Energy Market Operator (AEMO) forecasts NSW total annual electricity demand to grow from 64 TWh in 2026 to 81 TWh in 2035 under its 'Step Change' scenario, which it considers the most likely demand trajectory. Over this timeframe, the electrification of transport, business and residential sectors is forecast to add 6 TWh, 5 TWh and 1 TWh respectively to NSW annual demand, and the growth of data centres is forecast to add 8 TWh. AEMO's scenarios anticipate that additional demand from data centres will exceed electrification of any individual sector until the early 2040s, when it is surpassed by electrification of transport (Figure 1). This near-term growth profile means data centres will be a defining feature of energy system planning in the decade ahead and that getting the policy settings right, early, will matter enormously to achieving the state's legislated emissions reduction targets and a robust electricity system providing clean, affordable power to the state.

Governments across Australia recognise the significance of this growth, including its pace and the cumulative impacts that large-scale data centre development can have on energy systems, water, and communities. Through the National AI Plan, the Commonwealth Government is working with states and territories in the development and implementation of a set of national data centre principles (also referred to as 'Expectations').[1] These are intended to clarify how data centre

[1] On 23 March 2026, the Commonwealth Government published 'Expectations of data centres and AI infrastructure developers' https://www.industry.gov.au/publications/expectations-data-centres-and-ai-infrastructure-developers.

investment should align with Australia's national interest, support the energy transition, manage water use sustainably, invest in local skills, and contribute to research and innovation. As the state hosting the largest concentration of data centre development in Australia, NSW Government has both an opportunity and a responsibility to build on these principles and to lead in how they are put into effect. Governments should look to best practice globally as this work progresses (see international examples contained within this document).

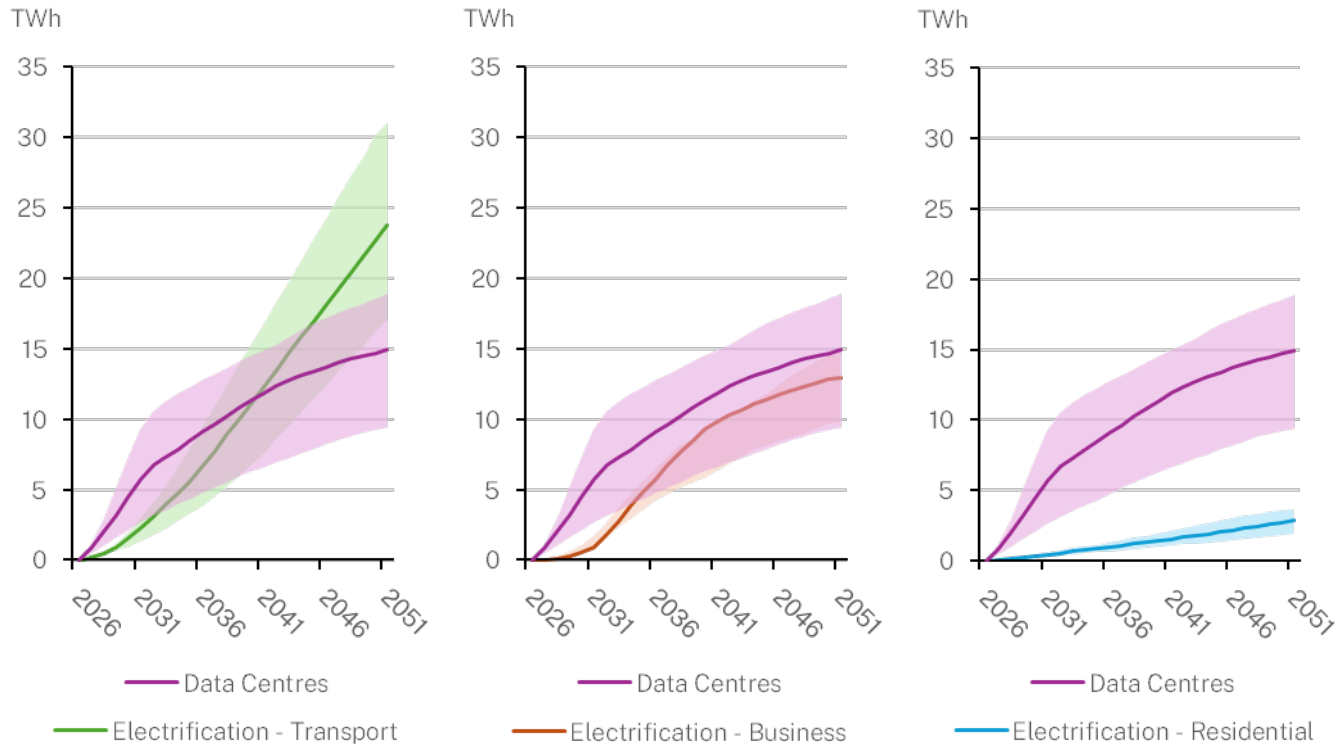

Figure 1 Drivers of future grid electricity demand in NSW, net change from 2026 (source: Net Zero Commission analysis of AEMO 2025 ESOO). Comparisons of data centres with electrification of transport, business and residential sectors. Shaded areas show the range of values across AEMO's four demand scenarios (Slower Growth, Step Change, Accelerated Transition, Data Centre Sensitivity) and the curves show the Step Change demand scenario (considered by AEMO to be the most likely demand trajectory).

The case for clear principles

Good policy design can enable data centre growth in NSW while protecting progress towards emissions targets, supporting the electricity transition, and safeguarding the interests of energy consumers and the broader community.

The large-scale renewable energy currently being built in NSW is primarily intended to replace coal generators with planned closure dates.[2] Large additions of new electricity demand require careful management to ensure that renewable energy supply growth continues to outpace total electricity demand growth. If data centre demand absorbs renewable energy supply before that supply can displace existing coal generators, NSW risks remaining reliant on ageing coal generators for longer,

[2] For further information see https://www.energy.nsw.gov.au/nsw-plans-and-progress/major-state-projects/electricity-infrastructure-roadmap.

prolonging emissions and increasing exposure to unplanned outages and reliability risks. Data centre growth in NSW is projected to add 1.7 percentage points to the compound annual growth rate for the state's total electricity demand over the next five years (2026–2031), moderating to 0.6 percentage points over a 25-year horizon (2026–2051).[3] This represents a significant acceleration at precisely the period when renewable energy development and construction is ramping up.

Beyond emissions, large concentrations of new electricity load have the potential to push up wholesale electricity prices for all consumers, place pressure on network infrastructure, and narrow the margin between peak consumption and available supply capacity. Data centres can also place demands on local water resources and, where backup diesel generation is relied upon, affect local air quality.

The principles below are designed to promote opportunities for data centres to contribute positively to achieving the emissions reduction targets in the Climate Change (Net Zero Future) Act 2023.

Principles for data centre development in NSW

It is possible for data centre growth to be accommodated in a manner that supports, rather than undermines, the energy transition, electricity affordability, system reliability, and community wellbeing, provided the right policy settings are in place. The Net Zero Commission recommends that the NSW Government introduces four principles to guide data centre development in NSW and advocates for their adoption in the implementation of the national data centre principles (also referred to as 'Expectations').

Many of the measures outlined below can be delivered through existing policy mechanisms rather than requiring new ones. The NSW Government could use its existing planning and project approval processes to offer priority or accelerated ways to gain approval for data centre projects that demonstrably meet these principles, providing developers with greater investment certainty. Clear eligibility criteria established upfront would reward operators who design facilities to high standards from the outset, and signal to the market that NSW welcomes data centre investment on terms that work for the energy system and for the community. Consideration should also be given as to whether the independent NSW Consumer Trustee, ASL, has a role to play in ensuring the long-term financial interests of NSW electricity consumers are protected from any adverse impacts of data centre growth.

Principle 1: Data centres should fund new renewable energy generation commensurate with their demand, ensuring genuine additionality.

Any such obligations must be designed to guarantee additionality, ensuring that sponsored capacity represents a genuine net addition to the grid, rather than capacity that would have been built regardless. These obligations should require both the amount of generation and the time of generation to match the expected usage of data centres. This is so that renewable energy is delivered to the grid at the times data centres actually consume it, rather than allowing operators to offset round-the-clock demand with renewable generation that occurs at unrelated times of day. Encouragingly, parts of the global data centre industry are already seeking to procure renewable

[3] Under AEMO's Step Change demand scenario.

energy that matches their demand on an hourly basis. Government obligations should be designed to make this the norm rather than the exception. The NSW Government should also review network cost recovery arrangements so that data centres bear the costs of network upgrades and augmentation required to support their connection.

International example: Germany's Energy Efficiency Act, enacted in 2023, requires all data centre operators to source at least 50% of their electricity from unsubsidised renewable energy from 2024, rising to 100% from 2027. The unsubsidised requirement is the key mechanism for ensuring genuine additionality, preventing operators from simply purchasing certificates backed by existing capacity.[4]

Principle 2: Data centres should actively contribute to grid reliability by limiting energy consumption during peak periods and offering demand response capacity during system stress events.

Such obligations are analogous to those already placed on large industrial loads such as aluminium smelters. Both peak demand reduction and demand response can be delivered cost-effectively through co-located or contractually integrated battery storage scaled to the facility's demand profile. These assets can also participate in wholesale electricity and frequency control ancillary services markets, generating revenue that offsets the capital cost of the battery investment and improves the overall economics.

International example: Ireland's Commission for Regulation of Utilities, the independent energy regulator, has introduced connection requirements obliging data centres to provide onsite or proximate dispatchable generation or storage capacity, effectively treating large digital loads as active contributors to grid stability rather than passive consumers.[5]

Principle 3: Data centres should meet world-leading standards for energy and water efficiency, with ongoing public reporting to ensure compliance.

On energy, this means achieving a power usage effectiveness rating consistent with best-in-class global facilities.[6] On water, it means minimising consumption of potable water for cooling and adopting closed-loop or alternative cooling technologies where feasible. These standards should be expected to improve over time as technology advances and global best practice evolves. Any standby diesel generators should be subject to emissions standards, and any operation must not compromise local air quality. Approval conditions should include ongoing monitoring and public reporting obligations to ensure compliance is maintained over the life of the facility.

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[4] For further information see https://www.dentons.com/en/insights/articles/2023/september/25/energy-efficiency-act-relevance-for-data-centers

[5] For further information see https://cruie-live-96ca64acab2247eca8a850a7e54b-5b34f62.divio-media.com/documents/CRU2025236_Large_Energy_User_connection_policy_decision_paper.pdf

[6] Power usage effectiveness (PUE) is a measure of how efficiently a data centre uses electricity, calculated by dividing the total electricity consumed by the data centre by the electricity consumed by its IT equipment. A PUE of 1.0 would indicate perfect efficiency, though this is unachievable in practice. The industry average is typically around 1.5, while best-in-class hyperscale facilities can achieve a PUE closer to 1.1.

International example: Singapore's Green Data Centre Roadmap (2024) sets power and water usage effectiveness targets as conditions for accessing new data centre capacity, with standards tightening over time as technology improves, providing a clear, evolving benchmark that industry can plan and invest against.[7]

Principle 4: The most suitable location for data centres should be determined, with regional locations actively considered where workloads are not genuinely latency-sensitive.

Policymakers should assess the most suitable locations for data centres, considering the potential benefits of regional siting. Regional locations such as the Hunter-Central Coast Renewable Energy Zone should be considered where data centre workloads are not genuinely latency-sensitive and where proximity to generation capacity can reduce network augmentation costs, avoid exacerbating transmission capacity constraints and support regional economic development. Latency is frequently cited as a reason for urban location, but this rationale deserves scrutiny. Many data centre workloads are not latency-sensitive and can operate effectively from regional locations. These include batch processing, data archiving, training of AI models, and back-office functions. The NSW Government should require applicants to demonstrate genuine latency sensitivity before urban locations are approved.

Strategic public co-investment in shared infrastructure, such as high-capacity fibre and grid connection assets, could reduce the upfront costs and coordination risks that deter regional location. The NSW Government could consider designating clean energy data zones, where multiple facilities aggregate around common energy and digital infrastructure.

Government should consider whether the 'Do No Significant Harm' framework from Australia's Sustainable Finance Taxonomy provides a useful additional way to assess data centre proposals. This would ensure that investment which may qualify as productive and economically beneficial does not, in the process, impose significant harm on environmental or social objectives including climate, water, biodiversity, and community amenity, nor displace land uses that cannot be easily relocated or recreated elsewhere.

International example: Japan's GX 2040 Vision, approved by Cabinet in February 2025, explicitly addresses the mismatch between urban data centre clusters and regional clean energy supply, establishing a 'GX Strategy Region' system to create industrial clusters in areas with access to decarbonised power and offering data centre operators subsidies of up to 50% of capital expenditure where they locate in those regions and operate on fully decarbonised electricity.[8]

[7] For further information see https://www.morganlewis.com/pubs/2026/03/singapore-announces-data-center-capacity-allocation-call.

[8] For further information see https://www.enecho.meti.go.jp/en/category/special/article/detail_214.html.